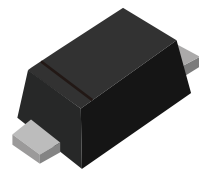
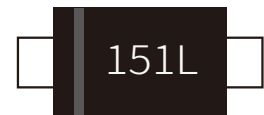


FEATURES

- | Low profile package
- | Ideal for automated placement
- | Guardring for overvoltage protection
- | Low power losses, high efficiency
- | High forward surge capability



SOD-323HE



Marking

MECHANICAL DATA

- | Encapsulation: SOD-323HE Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any



Schematic Symbol

APPROVALS

| | |
|------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

| Parameter | Symbol | Value | Unit |
|---|------------------|------------|----------------------|
| Repetitive Peak Reverse Voltage | V_{RRM} | 150 | V |
| Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1) | I_O | 1.0 | A |
| Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, $T_j=25^{\circ}\text{C}$ | I_{FSM} | 30 | A |
| Thermal Resistance | $R_{\theta J-A}$ | 270 | $^{\circ}\text{C/W}$ |
| | $R_{\theta J-L}$ | 45 | $^{\circ}\text{C/W}$ |
| Operating junction temperature range | T_J | -50 to 175 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{STG} | -50 to 175 | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|---------------------------|----------|----------------------|------|------|------|---------------|
| Reverse breakdown voltage | V_{BR} | $I_R=250\mu\text{A}$ | 150 | | | V |
| Reverse current | I_R | $V_R=150\text{V}$ | | | 1 | μA |
| Forward Voltage | V_F | $I_F=1\text{A}$ | | | 0.86 | V |

CHARACTERISTIC CURVES

Fig.1 I_o - T_L Curve

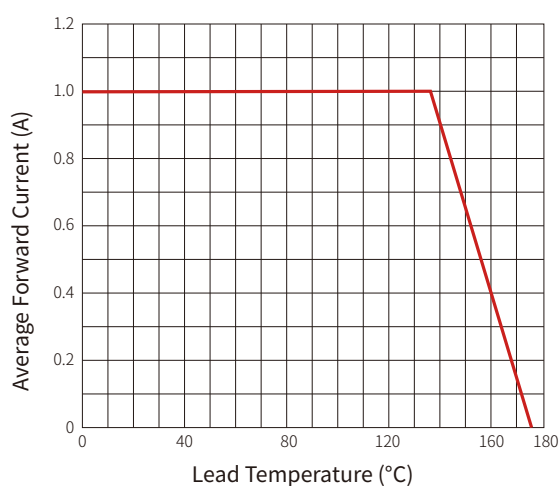


Fig.2 Surge Forward Current Capability

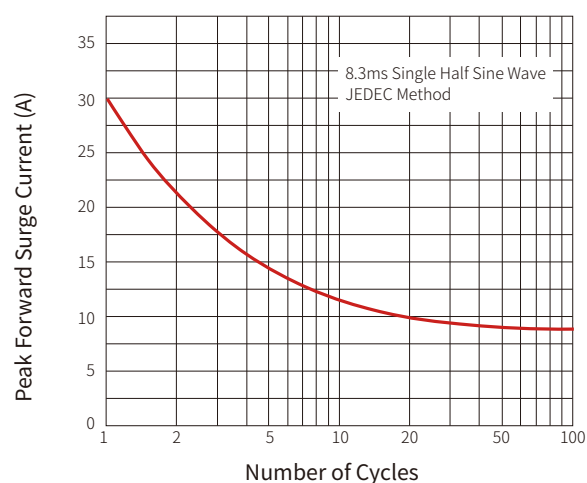


Fig.3 Forward Voltage

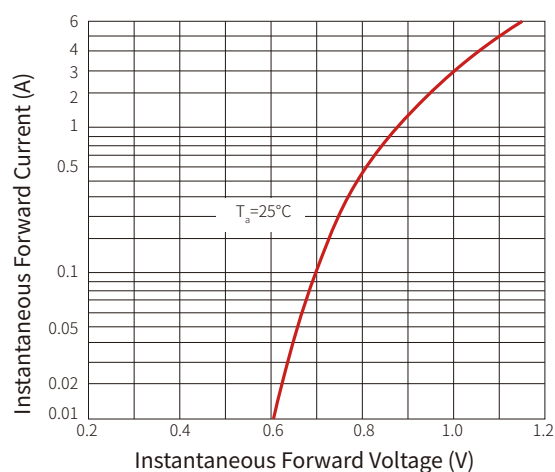
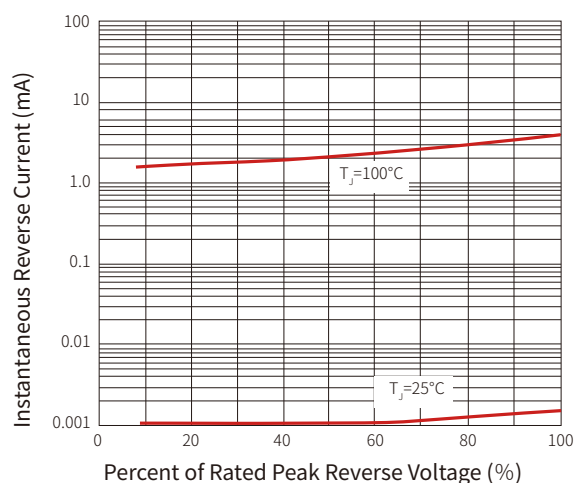
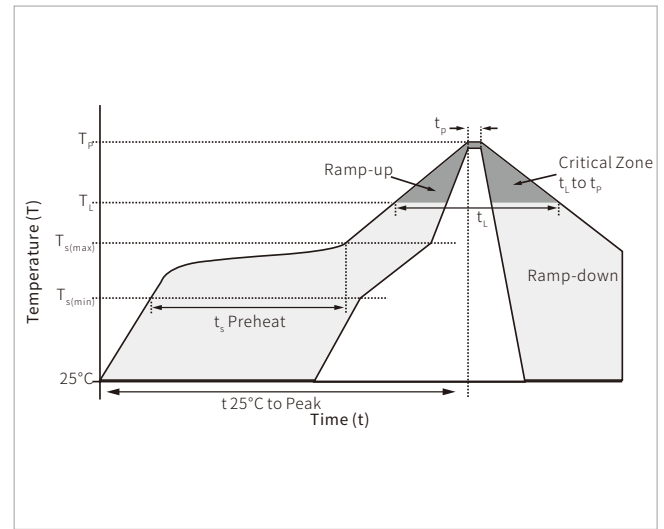


Fig.4 Typical Reverse Characteristics

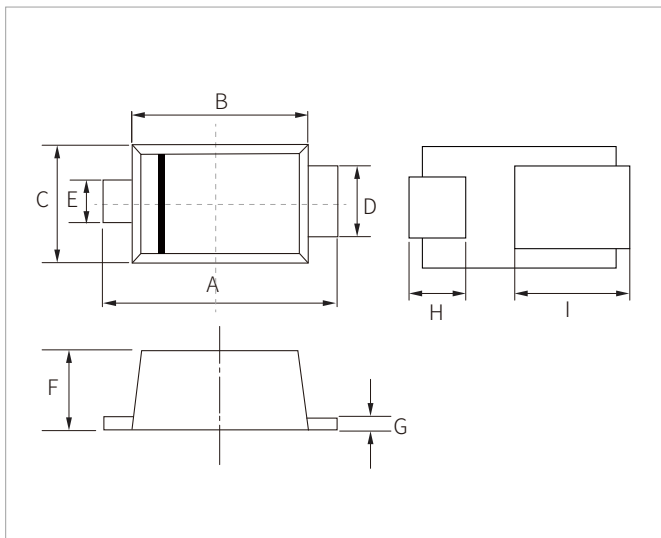


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|---|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |

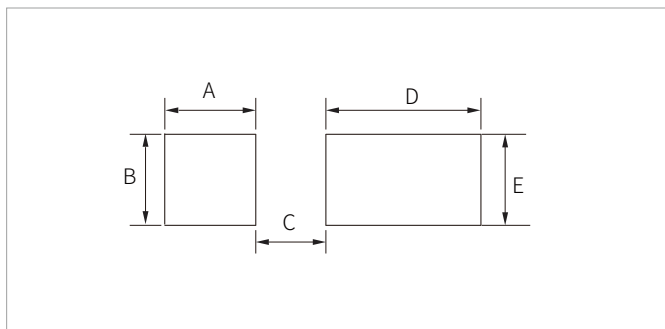


SOD-323HE PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.30 | 2.70 | 0.091 | 0.106 |
| B | 1.75 | 2.30 | 0.069 | 0.091 |
| C | 1.15 | 1.45 | 0.046 | 0.057 |
| D | 0.65 | 0.95 | 0.026 | 0.037 |
| E | 0.50 | 0.80 | 0.020 | 0.031 |
| F | 0.55 | 0.85 | 0.022 | 0.033 |
| G | 0.10 | 0.20 | 0.004 | 0.008 |
| H | 0.40 | 0.80 | 0.016 | 0.031 |
| I | 1.10 | 1.55 | 0.043 | 0.061 |

RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches |
|------|-------------|--------|
| | Min. | Min. |
| A | 0.80 | 0.031 |
| B | 0.80 | 0.031 |
| C | 0.50 | 0.020 |
| D | 2.00 | 0.079 |
| E | 1.10 | 0.043 |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| BS115A | SOD-323HE | 3000PCS | 7" |

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